

REMARKS

Applicants respectfully request further examination and reconsideration in view of the above amendments and the comments set forth fully below. Claims 24-26 and 35-42 were pending. Within the Office Action, Claims 24-26 and 35-42 have been rejected. By the above amendment, Claims 24, 35 and 41 have been amended. Claims 24-26 and 35-42 are now pending.

Rejections Under 35 U.S.C. § 102

Within the Office Action, Claims 24-26 and 35-42 have been rejected under 35 U.S.C. § 102(e) as being anticipated by PCT Publication NO. 98/10857 to Zuckermann et al. (hereinafter “Zuckermann”). Zuckermann teaches an actuation means for use in solid phase chemical synthesis involving arrays of modular reaction vessels. The apparatus taught by Zuckermann includes a plurality of reaction vessels arranged in a substantially linear array. [Zuckermann, Abstract] The reaction vessels of Zuckermann include modular valving means capable of being actuated to drain or close each of the reaction vessels in the array. [Zuckermann, Abstract] Zuckermann does not teach coupling a waste tube to a selective one of a first drain and a second drain. Further, Zuckermann does not teach coupling a waste tube to a selective one of the first drain to purge material from all of the first plurality of vials within the first bank of vials and the second drain to purge material from all of the second plurality of vials within the second bank of vials. Still further, Zuckermann does not teach a waste tube movable to couple to a selective one of the first drain and the second drain.

In contrast to the teachings of Zuckermann, the multi-well rotary synthesizer of the present invention includes a controller, a plurality of precision fit vials circularly arranged in multiple banks on a cartridge, a drain corresponding to each bank of vials, a chamber bowl, a plurality of valves for delivering reagents to selective vials and a waste tube system for selectively purging material from the vials. [Present Specification, p. 3, lines 8-11] The banks of vials can also be selectively purged. [Present Specification, p. 3, lines 8-11] Each individual bank of vials includes a plurality of vials and has a corresponding drain. [Present Specification, page 3, line 16] The reagent solution is purged from a bank of vials by rotating the cartridge until the corresponding drain is positioned above the waste tube system and moving the waste tube system to couple to the corresponding drain. As discussed above, Zuckermann does not teach coupling a waste tube to a selective one of a first drain and a second drain. As also discussed

above, Zuckermann does not teach coupling a waste tube to a selective one of the first drain to purge material from all of the first plurality of vials within the first bank of vials and the second drain to purge material from all of the second plurality of vials within the second bank of vials. Further, Zuckermann does not teach a waste tube movable to couple to a selective one of the first drain and the second drain.

The independent Claim 24 is directed to a purging system within a synthesizer, the synthesizer further comprising a first bank of vials and a second bank of vials wherein the first bank of vials includes a first plurality of vials and has a first drain and the second bank of vials includes a second plurality of vials and has a second drain. The purging system of Claim 24 comprises a pressurizing system for creating a pressure differential within a selective one of the first bank of vials and the second bank of vials and a first waste tube movable to couple to a selective one of the first drain to purge material from all of the first plurality of vials within the first bank of vials and the second drain to purge material from all of the second plurality of vials within the second bank of vials. As discussed above, Zuckermann does not teach coupling a waste tube to a selective one of a first drain and a second drain. As further discussed above, Zuckermann does not teach coupling a waste tube to a selective one of the first drain to purge material from all of the first plurality of vials within the first bank of vials and the second drain to purge material from all of the second plurality of vials within the second bank of vials. As also discussed above, Zuckermann does not teach a waste tube movable to couple to a selective one of the first drain and the second drain. For at least these reasons, the independent Claim 24 is allowable over the teachings of Zuckermann.

Claims 25 and 26 are both dependent on the independent Claim 24. As described above, the independent Claim 24 is allowable over the teachings of Zuckermann. Accordingly, the Claims 25 and 26 are both also allowable as being dependent on an allowable base claim.

The independent Claim 35 is directed to a purging system within a synthesizer, the synthesizer further comprising a first bank of vials and a second bank of vials wherein the first bank of vials includes a first plurality of vials and has a first drain and the second bank of vials includes a second plurality of vials and has a second drain. The purging system of Claim 35 comprises means for generating a pressure differential within a selective one of the first bank of vials and the second bank of vials and means for purging for coupling to a selective one of the first drain for purging material from all of the first plurality of vials within the first bank of vials and the second drain to purge material from all of the second plurality of vials within the second bank of vials, wherein the means for purgin is movable to the first drain and to the second drain.

As discussed above, Zuckermann does not teach coupling a waste tube to a selective one of a first drain and a second drain. As further discussed above, Zuckermann does not teach coupling a waste tube to a selective one of the first drain to purge material from all of the first plurality of vials within the first bank of vials and the second drain to purge material from all of the second plurality of vials within the second bank of vials. As also discussed above, Zuckermann does not teach a means for purging which is movable to the first drain and to the second drain for coupling to a selective one of the first drain and the second drain. For at least these reasons, the independent Claim 35 is allowable over the teachings of Zuckermann.

Claims 36-40 are all dependent on the independent Claim 35. As described above, the independent Claim 35 is allowable over the teachings of Zuckermann. Accordingly, the Claims 36-40 are all also allowable as being dependent on an allowable base claim.

The independent Claim 41 is directed to a purging system within a synthesizer, the synthesizer further comprising a first bank of vials including a first plurality of vials and having a first drain and a second bank of vials including a second plurality of vials and having a second drain. The purging system of Claim 41 comprises a pressurizing system to generate a pressure differential within a selective one of the first bank of vials and the second bank of vials, a first waste tube movable to couple to a selective one of the first drain to purge material from all of the first plurality of vials within the first bank of vials and the second drain to purge material from all of the second plurality of vials within the second bank of vials and a drain seal coupled to the first waste tube for generating a flexible seal between the first waste tube and the selective one of the first drain and the second drain. As discussed above, Zuckermann does not teach coupling a waste tube to a selective one of a first drain and a second drain. As further discussed above, Zuckermann does not teach coupling a waste tube to a selective one of the first drain to purge material from all of the first plurality of vials within the first bank of vials and the second drain to purge material from all of the second plurality of vials within the second bank of vials. As also discussed above, Zuckermann does not teach a first waste tube movable to couple to a selective one of the first drain and the second drain. For at least these reasons, the independent Claim 41 is allowable over the teachings of Zuckermann.

Claim 42 is dependent on the independent Claim 41. As described above, the independent Claim 41 is allowable over the teachings of Zuckermann. Accordingly, the Claim 42 is also allowable as being dependent on an allowable base claim.

Within the Office Action, Claims 24, 26, 35 and 38-40 have been rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 5,849,247 to Uzan et al. (hereinafter

“Uzan”). Uzan teaches an automatic apparatus for immunological assay. Uzan teaches an automatic immulogical assay apparatus comprising reaction wells in which there are deposited quantities of samples to be analyzed and of reagents, the reaction wells being grouped in modules (40) that are moved in translation, sliding between rails that define a U-shaped track 24, running from automatic reaction well feed device 26 to device 28 for ejecting the wells after use. [Uzan, Abstract] Uzan further teaches that the reaction wells are emptied of their contents by suction through a vertically movable needle 116 and then the reaction modules 40 reach ejection means 28 which are constituted merely by a downwardly sloping chute leading to a bin 118. [Uzan, col. 7, lines 28-44, Figure 3] As taught in Uzan, the vertically movable needle 116 empties the contents from a single reaction well at a time. Uzan does not teach coupling a waste tube to a selective one of a first drain and a second drain. Further, Uzan does not teach coupling a waste tube to a selective one of the first drain to purge material from all of the first plurality of vials within the first bank of vials and the second drain to purge material from all of the second plurality of vials within the second bank of vials. Still further, Uzan does not teach a waste tube movable to couple to a selective one of the first drain to purge material from all of the plurality of vials within the first bank of vials and the second drain to purge material from all of the second plurality of vials within the second bank of vials.

In contrast to the teachings of Uzan, the multi-well rotary synthesizer of the present invention includes a controller, a plurality of precision fit vials circularly arranged in multiple banks on a cartridge, a drain corresponding to each bank of vials, a chamber bowl, a plurality of valves for delivering reagents to selective vials and a waste tube system for selectively purging material from the vials. [Present Specification, p. 3, lines 8-11] The banks of vials can also be selectively purged. [Present Specification, p. 3, lines 8-11] Each individual bank of vials includes a plurality of vials and has a corresponding drain. [Present Specification, page 3, line 16] The reagent solution is purged from a bank of vials by rotating the cartridge until the corresponding drain is positioned above the waste tube system and coupling the waste tube system to the corresponding drain. As discussed above, Uzan does not teach coupling a waste tube to a selective one of a first drain and a second drain. As further discussed above, Uzan does not teach coupling a waste tube to a selective one of the first drain to purge material from all of the first plurality of vials within the first bank of vials and the second drain to purge material from all of the second plurality of vials within the second bank of vials. Uzan teaches that the vertically movable needle 116 is inserted into a single reaction well and empties the contents from a single reaction well at a time. As also discussed above, Uzan does not teach a waste tube

movable to couple to a selective one of the first drain to purge material from all of the plurality of vials within the first bank of vials and the second drain to purge material from all of the second plurality of vials within the second bank of vials.

The independent Claim 24 is directed to a purging system within a synthesizer, the synthesizer further comprising a first bank of vials and a second bank of vials wherein the first bank of vials includes a first plurality of vials and has a first drain and the second bank of vials includes a second plurality of vials and has a second drain. The purging system of Claim 24 comprises a pressurizing system for creating a pressure differential within a selective one of the first bank of vials and the second bank of vials and a first waste tube movable to couple to a selective one of the first drain to purge material from all of the first plurality of vials within the first bank of vials and the second drain to purge material from all of the second plurality of vials within the second bank of vials. As discussed above, Uzan does not teach coupling a waste tube to a selective one of a first drain and a second drain. As further discussed above, Uzan does not teach coupling a waste tube to a selective one of the first drain to purge material from all of the first plurality of vials within the first bank of vials and the second drain to purge material from all of the second plurality of vials within the second bank of vials. Uzan teaches that the vertically movable needle 116 is inserted into a single reaction well and empties the contents from a single reaction well at a time. As also discussed above, Uzan does not teach a waste tube movable to couple to a selective one of the first drain to purge material from all of the plurality of vials within the first bank of vials and the second drain to purge material from all of the second plurality of vials within the second bank of vials. For at least these reasons, the independent Claim 24 is allowable over the teachings of Uzan.

Claim 26 is dependent on the independent Claim 24. As described above, the independent Claim 24 is allowable over the teachings of Uzan. Accordingly, the Claim 26 is also allowable as being dependent on an allowable base claim.

The independent Claim 35 is directed to a purging system within a synthesizer, the synthesizer further comprising a first bank of vials and a second bank of vials wherein the first bank of vials includes a first plurality of vials and has a first drain and the second bank of vials includes a second plurality of vials and has a second drain. The purging system of Claim 35 comprises means for generating a pressure differential within a selective one of the first bank of vials and the second bank of vials and means for purging for coupling to a selective one of the first drain for purging material from all of the first plurality of vials within the first bank of vials and the second drain to purge material from all of the second plurality of vials within the second

bank of vials, wherein the means for purging is movable to the first drain and to the second drain. As discussed above, Uzan does not teach coupling a waste tube to a selective one of a first drain and a second drain. As further discussed above, Uzan does not teach coupling a waste tube to a selective one of the first drain to purge material from all of the first plurality of vials within the first bank of vials and the second drain to purge material from all of the second plurality of vials within the second bank of vials. Uzan teaches that the vertically movable needle 116 is inserted into a single reaction well and empties the contents from a single reaction well at a time. Uzan also does not teach a means for purging that is movable to the first drain and to the second drain for coupling to a selective one of the first drain and the second drain. For at least these reasons, the independent Claim 35 is allowable over the teachings of Uzan.

Claims 38-40 are all dependent on the independent Claim 35. As described above, the independent Claim 35 is allowable over the teachings of Uzan. Accordingly, the Claims 38-40 are all also allowable as being dependent on an allowable base claim.

Within the Office Action, Claims 24, 35, 38 and 40 have been rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,483,843 to Miller et al. (hereinafter "Miller"). Miller teaches a transport apparatus. The vial transport apparatus taught by Miller is capable of storing and retrieving samples and then transporting them from one location in a sampling system to another without the complexity and expense of robotic arms or gripper elements. [Miller, Abstract] Miller teaches that a sampling needle 120 is used to draw up the liquid sample from the vial 114 by suction produced by a syringe. [Miller, col. 7, lines 62-66] As taught in Miller, the sampling needle 120 samples the contents from a single vial at a time. Miller does not teach coupling a waste tube to a selective one of a first drain and a second drain. Further, Miller does not teach coupling a waste tube to a selective one of the first drain to purge material from all of the first plurality of vials within the first bank of vials and the second drain to purge material from all of the second plurality of vials within the second bank of vials. Still further, Miller does not teach a first waste tube movable to couple to a selective one of the first drain to purge material from all of the first plurality of vials within the first bank of vials and the second drain to purge material from all of the second plurality of vials within the second bank of vials.

In contrast to the teachings of Miller, the multi-well rotary synthesizer of the present invention includes a controller, a plurality of precision fit vials circularly arranged in multiple banks on a cartridge, a drain corresponding to each bank of vials, a chamber bowl, a plurality of valves for delivering reagents to selective vials and a waste tube system for selectively purging material from the vials. [Present Specification, p. 3, lines 8-11] The banks of vials can also be

selectively purged. [Present Specification, p. 3, lines 8-11] Each individual bank of vials includes a plurality of vials and has a corresponding drain. [Present Specification, page 3, line 16] The reagent solution is purged from a bank of vials by rotating the cartridge until the corresponding drain is positioned above the waste tube system and coupling the waste tube system to the corresponding drain. As discussed above, Miller does not teach coupling a waste tube to a selective one of a first drain and a second drain. As further discussed above, Miller does not teach coupling a waste tube to a selective one of the first drain to purge material from all of the first plurality of vials within the first bank of vials and the second drain to purge material from all of the second plurality of vials within the second bank of vials. Miller teaches that the sampling needle 120 is inserted into a single vial and samples the contents from a single vial at a time. As also discussed above, Miller does not teach a first waste tube movable to couple to a selective one of the first drain to purge material from all of the first plurality of vials within the first bank of vials and the second drain to purge material from all of the second plurality of vials within the second bank of vials.

The independent Claim 24 is directed to a purging system within a synthesizer, the synthesizer further comprising a first bank of vials and a second bank of vials wherein the first bank of vials includes a first plurality of vials and has a first drain and the second bank of vials includes a second plurality of vials and has a second drain. The purging system of Claim 24 comprises a pressurizing system for creating a pressure differential within a selective one of the first bank of vials and the second bank of vials and a first waste tube movable to couple to a selective one of the first drain to purge material from all of the first plurality of vials within the first bank of vials and the second drain to purge material from all of the second plurality of vials within the second bank of vials. As discussed above, Miller does not teach coupling a waste tube to a selective one of a first drain and a second drain. As further discussed above, Miller does not teach coupling a waste tube to a selective one of the first drain to purge material from all of the first plurality of vials within the first bank of vials and the second drain to purge material from all of the second plurality of vials within the second bank of vials. Miller teaches that the sampling needle 120 is inserted into a single vial and samples the contents from a single vial at a time. As also discussed above, Miller does not teach a first waste tube movable to couple to a selective one of the first drain to purge material from all of the first plurality of vials within the first bank of vials and the second drain to purge material from all of the second plurality of vials within the second bank of vials. For at least these reasons, the independent Claim 24 is allowable over the teachings of Miller.

The independent Claim 35 is directed to a purging system within a synthesizer, the synthesizer further comprising a first bank of vials and a second bank of vials wherein the first bank of vials includes a first plurality of vials and has a first drain and the second bank of vials includes a second plurality of vials and has a second drain. The purging system of Claim 35 comprises means for generating a pressure differential within a selective one of the first bank of vials and the second bank of vials and means for purging for coupling to a selective one of the first drain for purging material from all of the first plurality of vials within the first bank of vials and the second drain to purge material from all of the second plurality of vials within the second bank of vials, wherein the means for purging is movable to the first drain and to the second drain. As discussed above, Miller does not teach coupling a waste tube to a selective one of a first drain and a second drain. As further discussed above, Miller does not teach coupling a waste tube to a selective one of the first drain to purge material from all of the first plurality of vials within the first bank of vials and the second drain to purge material from all of the second plurality of vials within the second bank of vials. Miller teaches that the sampling needle 120 is inserted into a single vial and samples the contents from a single vial at a time. Miller also does not teach a means for purging which is movable to the first drain and to the second drain for coupling to a selective one of the first drain for purging material from all of the first plurality of vials within the first bank of vials and the second drain to purge material from all of the second plurality of vials within the second bank of vials. For at least these reasons, the independent Claim 35 is allowable over the teachings of Miller.

Claims 38 and 40 are both dependent on the independent Claim 35. As described above, the independent Claim 35 is allowable over the teachings of Miller. Accordingly, the Claims 38 and 40 are both also allowable as being dependent on an allowable base claim.

Within the Office Action, Claims 24-26 and 35-42 have been rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,252,296 to Zuckermann et al. (hereinafter “Zuckermann2”). Zuckermann2 teaches a method and apparatus for biopolymer synthesis. The apparatus taught by Zuckermann2 includes plural reaction vessels in which subunit coupling to biopolymers in a particle suspension. [Zuckermann2, Abstract] The reaction vessels of Zuckermann include modular valving means operable between a closed position, in which the vessels connected to the valve are isolated from the vacuum and gas sources, and open positions, in which the vessels are in communication with the vacuum manifold, in one open position, and with the gas manifold, in another open position. [Zuckermann, col. 4, lines 43-49] Zuckermann2 does not teach coupling a waste tube to a selective one of a first drain and a second drain.

Further, Zuckermann2 does not teach coupling a waste tube to a selective one of the first drain to purge material from all of the first plurality of vials within the first bank of vials and the second drain to purge material from all of the second plurality of vials within the second bank of vials. Still further, Zuckermann2 does not teach a waste tube movable to couple to a selective one of the first drain and the second drain.

In contrast to the teachings of Zuckermann, the multi-well rotary synthesizer of the present invention includes a controller, a plurality of precision fit vials circularly arranged in multiple banks on a cartridge, a drain corresponding to each bank of vials, a chamber bowl, a plurality of valves for delivering reagents to selective vials and a waste tube system for selectively purging material from the vials. [Present Specification, p. 3, lines 8-11] The banks of vials can also be selectively purged. [Present Specification, p. 3, lines 8-11] Each individual bank of vials includes a plurality of vials and has a corresponding drain. [Present Specification, page 3, line 16] The reagent solution is purged from a bank of vials by rotating the cartridge until the corresponding drain is positioned above the waste tube system and moving the waste tube system to couple to the corresponding drain. As discussed above, Zuckermann2 does not teach coupling a waste tube to a selective one of a first drain and a second drain. As also discussed above, Zuckermann2 does not teach coupling a waste tube to a selective one of the first drain to purge material from all of the first plurality of vials within the first bank of vials and the second drain to purge material from all of the second plurality of vials within the second bank of vials. Further, Zuckermann2 does not teach a waste tube movable to couple to a selective one of the first drain and the second drain.

The independent Claim 24 is directed to a purging system within a synthesizer, the synthesizer further comprising a first bank of vials and a second bank of vials wherein the first bank of vials includes a first plurality of vials and has a first drain and the second bank of vials includes a second plurality of vials and has a second drain. The purging system of Claim 24 comprises a pressurizing system for creating a pressure differential within a selective one of the first bank of vials and the second bank of vials and a first waste tube movable to couple to a selective one of the first drain to purge material from all of the first plurality of vials within the first bank of vials and the second drain to purge material from all of the second plurality of vials within the second bank of vials. As discussed above, Zuckermann2 does not teach coupling a waste tube to a selective one of a first drain and a second drain. As further discussed above, Zuckermann2 does not teach coupling a waste tube to a selective one of the first drain to purge material from all of the first plurality of vials within the first bank of vials and the second drain

to purge material from all of the second plurality of vials within the second bank of vials. As also discussed above, Zuckermann2 does not teach a waste tube movable to couple to a selective one of the first drain and the second drain. For at least these reasons, the independent Claim 24 is allowable over the teachings of Zuckermann2.

Claims 25 and 26 are both dependent on the independent Claim 24. As described above, the independent Claim 24 is allowable over the teachings of Zuckermann2. Accordingly, the Claims 25 and 26 are both also allowable as being dependent on an allowable base claim.

The independent Claim 35 is directed to a purging system within a synthesizer, the synthesizer further comprising a first bank of vials and a second bank of vials wherein the first bank of vials includes a first plurality of vials and has a first drain and the second bank of vials includes a second plurality of vials and has a second drain. The purging system of Claim 35 comprises means for generating a pressure differential within a selective one of the first bank of vials and the second bank of vials and means for purging for coupling to a selective one of the first drain for purging material from all of the first plurality of vials within the first bank of vials and the second drain to purge material from all of the second plurality of vials within the second bank of vials, wherein the means for purging is movable to the first drain and to the second drain. As discussed above, Zuckermann2 does not teach coupling a waste tube to a selective one of a first drain and a second drain. As further discussed above, Zuckermann2 does not teach coupling a waste tube to a selective one of the first drain to purge material from all of the first plurality of vials within the first bank of vials and the second drain to purge material from all of the second plurality of vials within the second bank of vials. As also discussed above, Zuckermann2 does not teach a means for purging which is movable to the first drain and to the second drain for coupling to a selective one of the first drain and the second drain. For at least these reasons, the independent Claim 35 is allowable over the teachings of Zuckermann2.

Claims 36-40 are all dependent on the independent Claim 35. As described above, the independent Claim 35 is allowable over the teachings of Zuckermann2. Accordingly, the Claims 36-40 are all also allowable as being dependent on an allowable base claim.

The independent Claim 41 is directed to a purging system within a synthesizer, the synthesizer further comprising a first bank of vials including a first plurality of vials and having a first drain and a second bank of vials including a second plurality of vials and having a second drain. The purging system of Claim 41 comprises a pressurizing system to generate a pressure differential within a selective one of the first bank of vials and the second bank of vials, a first waste tube movable to couple to a selective one of the first drain to purge material from all of the

first plurality of vials within the first bank of vials and the second drain to purge material from all of the second plurality of vials within the second bank of vials and a drain seal coupled to the first waste tube for generating a flexible seal between the first waste tube and the selective one of the first drain and the second drain. As discussed above, Zuckermann2 does not teach coupling a waste tube to a selective one of a first drain and a second drain. As further discussed above, Zuckermann2 does not teach coupling a waste tube to a selective one of the first drain to purge material from all of the first plurality of vials within the first bank of vials and the second drain to purge material from all of the second plurality of vials within the second bank of vials. As also discussed above, Zuckermann2 does not teach a first waste tube movable to couple to a selective one of the first drain and the second drain. For at least these reasons, the independent Claim 41 is allowable over the teachings of Zuckermann2.

Claim 42 is dependent on the independent Claim 41. As described above, the independent Claim 41 is allowable over the teachings of Zuckermann2. Accordingly, the Claim 42 is also allowable as being dependent on an allowable base claim.

Applicants respectfully submit that the claims, as amended, are now in a condition for allowance, and allowance at an early date would be appreciated. Should the Examiner have any questions or comments, they are encouraged to call the undersigned at (408) 530-9700 to discuss the same so that any outstanding issues can be expeditiously resolved.

Respectfully submitted,
HAVERSTOCK & OWENS LLP

Dated: March 13, 2006

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CERTIFICATE OF MAILING (37 CFR § 1.8(e))

I hereby certify that this paper (along with any referred to as being attached or enclosed) is being deposited with the U.S. Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to the: Commissioner for Patents, P.O. Box 1450 Alexandria, VA 22313-1450

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